



Calhoun: The NPS Institutional Archive
DSpace Repository

Theses and Dissertations

1. Thesis and Dissertation Collection, all items

1959

A proposed Naval Shipyard organization.

Holmes, Donald T.

George Washington University ; School of Government, Washington, District of Columbia.

<http://hdl.handle.net/10945/31131>

Downloaded from NPS Archive: Calhoun



Calhoun is the Naval Postgraduate School's public access digital repository for research materials and institutional publications created by the NPS community. Calhoun is named for Professor of Mathematics Guy K. Calhoun, NPS's first appointed -- and published -- scholarly author.

Dudley Knox Library / Naval Postgraduate School
411 Dyer Road / 1 University Circle
Monterey, California USA 93943

<http://www.nps.edu/library>

THE GEORGE WASHINGTON UNIVERSITY
NAVY GRADUATE COMPTROLLERSHIP PROGRAM

A
PROPOSED
NAVAL SHIPYARD ORGANIZATION

By
Donald T. Holmes
Commander, United States Navy

Prepared For
Dr. A. Rex Johnson
May 1959

PREFACE

Reworking the organizational structure of an enterprise, whether civilian or government, is a favorite pastime of almost everyone concerned with management. The reworking of the organizational structure by those concerned with naval shipyards is not an exception to the rule. This desire to reorganize, however, is not mere impulse nor idle whim. It has its origin in actual need. According to various informal estimates, as high as eighty per cent of all management problems stem from organizational defects.¹

The present naval shipyard has many problems that can be traced to the organizational structure. Reorganization is the logical step to the solution of some of these problems. Of course, specific shipyard problems are not solved by generalized solutions. The practicalities of each shipyard situation must be considered. But the naval shipyard organization is a standard organization. It does not deal with specifics. At best it can only hope to provide a general solution to shipyard management problems.

The basic purpose of this presentation is to develop a naval shipyard organization with a simple framework, streamlined

¹George R. Terry, Principles of Management (Homewood, Ill.: Richard D. Irwin, Inc., 1956), p. 236.

for economy and directed toward fulfillment of the shipyard mission in the Navy. Functions have been abolished, transferred, and combined to get the best possible management grouping. The implementation of the proposed organization has been considered only to the extent that it is practical. None of the details of implementation have been studied.

The problem discussed in this paper is one of naval shipyard organization. The solution, in turn, requires a reorganization of the Naval Base. No detailed consideration has been given to this aspect of the total problem except to conclude that necessary reorganization of the Naval Base is entirely feasible.

In Chapter I a new standard naval shipyard organization is proposed. Chapters II, III, and IV discuss the changes which have been made from the present naval shipyard organization with some theoretical discussion and reasons for the changes. Chapter V discusses briefly civilian shipyard organizations which are compared with the proposed naval shipyard organization. The final chapter is a brief summary and defense of the proposed new shipyard organization.

Diagrams of the new organization have been included in Chapter I as part of the presentation. Diagrams of the present standard shipyard organization are included in Appendix A for reference by those not familiar with the present organization.

TABLE OF CONTENTS

	page
PREFACE.....	ii
LIST OF ILLUSTRATIONS.....	vi
 Chapter	
I. A NEW NAVAL SHIPYARD ORGANIZATION.....	1
Office of the Shipyard Commander	
Industrial Relations and Administrative Department	
Comptroller Department	
Planning Department	
Production Department	
II. PROBLEM OF MISSION DEFINITION.....	18
Early History of Navy Yards	
Establishment of Naval Bases	
Mission of the Naval Shipyard	
Function Transfers Required	
III. PROBLEM OF DEPARTMENTATION.....	25
Authority and Responsibility	
Line and Staff Relationships	
Centralization or Decentralization	
Span of Control	
The Shipyard Departmentation	
IV. PROBLEM OF FUNCTION CONSOLIDATION.....	33
Function Analysis of the Naval Shipyard	
Summary of Functional Grouping	
V. PROBLEM OF ORGANIZATION AS WORKED OUT IN CIVILIAN SHIPYARDS.....	46
Bath Iron Works Corporation	
Newport News Shipbuilding and Dry Dock Company	

Chapter	page
New York Shipbuilding Corporation Comparative Summary	
VI. SUMMARY AND CONCLUSION.....	55
APPENDIX A. STANDARD ORGANIZATION CHARTS FOR U.S. NAVAL SHIPYARDS.....	60
BIBLIOGRAPHY.....	72

LIST OF ILLUSTRATIONS

Figure	Page
1. Proposed Standard Naval Shipyard Organization.....	3
2. Proposed Standard Industrial Relations and Administrative Department Organization..	4
3. Proposed Standard Comptroller Department Organization.....	5
4. Proposed Standard Planning Department Organization.....	6
5.. Proposed Standard Production Department Organization.....	7
6. Bath Iron Works Corporation Organization (JAN 57).....	47
7. Newport News Shipbuilding and Dry Dock Company Organization (JAN 59).....	49
8. New York Shipbuilding Corporation Organization (OCT 58).....	51

CHAPTER I

A NEW NAVAL SHIPYARD ORGANIZATION

The Naval Shipyard today, is an industrial complex of such size as to be comparable to the largest of private industries. Command of this facility is a task requiring the greatest management skill and administrative ability. One of the fundamental tools required for the management and administration of any enterprise is the organizational structure. The Naval Shipyard, which is no exception, requires a well conceived and well defined plan of organization to insure successful operation.

Organization is not an end in itself but a tool of management. It is a mechanism developed to arrange activities of the enterprise into a framework to promote efficiency in the attainment of the organizational objective. It should be simple, straight forward, and balanced. In addition, the structure should be consistent with the basic operations. Only activities necessary in attaining the major objectives should be included. Basically, organization requires the defining of activities through analysis of their functions and their relationships, and then grouping these defined activities into the kind of a structure that will produce a smoothly operating enterprise. As stated in Organization Planning for Naval Units, two basic

principles should be kept in mind:

1. The organization structure of a command should be as simple as possible and the number of organizational units should be kept at a minimum.
2. The organization structure should be sufficiently flexible to meet new and changing conditions.¹

The proposed shipyard organization consists of four departments:

1. Industrial Relations and Administrative Department
2. Comptroller Department
3. Planning Department
4. Production Department

The Planning and Production Departments are the operating departments while the Comptroller and the Industrial Relations and Administrative Departments provide the necessary services.

The structural design of an organization is best shown on an organization chart. Through the use of this graphic form the major aspects of the organization structure can best be visualized. Figure 1 is a chart of the proposed naval shipyard organization. Figures 2,3,4, and 5 are expanded charts of each of the four departments.

Office of the Shipyard Commander

The proposed naval shipyard organization provides necessarily and, as currently, that the Shipyard Commander be fully responsible for the shipyard. He is specifically charged with

¹Bureau of Naval Personnel, Organizational Planning for Naval Units, NAVPERS 18371 (August 1955), p. 2-3.



Figure 1

PROPOSED STANDARD ORGANIZATION OF THE AIR FORCE

the direction and administration of all work, assuring its timely and economic performance. No "Deputy" or "Assistant" is proposed for the Shipyard Commander, providing, rather, free and direct access to the Shipyard Commander for each of the four department heads. The Office of the Shipyard Commander, however, should be built up with a small personal staff including an industrial engineer, a public relations officer, and a legal counsel, in addition to the necessary clerical staff. This small group can provide the Shipyard Commander with required added capacity to reduce the excessive pressure of extraneous matters and allow him time for contemplative planning.

Industrial Relations and Administrative Department

The Industrial Relations and Administrative Department is the center of all personnel functions in the Shipyard. As a staff department it provides service in the industrial relations and administrative fields for the entire shipyard. In addition to all the functions of the Industrial Relations Department that exist in the present shipyard organization, this new department has in it several functions of the present Administrative Department. This combination has destroyed, somewhat, the direct tie-in of the Office of Industrial Relations to an individual Industrial Relations Department. However, the few Administrative functions retained in this proposed shipyard organization do not merit departmental status and are actually closely enough related to become a part of an expanded Industrial Relations and

Administrative Department.

Included in the department are two divisions directed toward civilian employment and civilian employee problems, one division concerned with administrative services, and one division concerned solely with the administration of military personnel.

The Employee Relations Division has the functions of employment, wage determinations, employee classification, and employee counseling, including employee committees and employee grievances. These functions are divided into three branches: Employment Branch, Wage and Classification Branch, and Employee Counseling Branch.

The other division directed toward civilian employees is the Employee Services Division. The three branches in this division are the Training Branch, the Safety Branch, and the Employee Activities Branch. The functions of the Training and Safety Branches are self explanatory. The functions of the Employee Activities Branch includes incentive awards, recreational and social activities, publications, credit unions, and food services. The six branches just described are the six divisions that exist in the Industrial Relations Department as the shipyard is now organized. Analysis of the relative status of these functions indicates that the reduction from division to branch level is justified.

The third division of the Industrial Relations Department is the Administrative Services Division. This division is

responsible for the several services required by the Shipyard. First, there is the Industrial Medicine Branch. This branch is responsible for all the industrial medical requirements of the shipyard. In addition, this branch will provide the necessary medical facilities for physical examinations required for employment and the first aid and medical facilities for emergencies. The Industrial Medicine Branch is that component of the Medical Department that now exists in present Naval Shipyard organizations directly related to industrial medicine. Another branch of the Administrative Services Division is the Security Branch whose functions include the general security of the shipyard as evidenced by the police and fire departments. This branch also has responsibility for badges and passes for both employees and visitors. The third branch of the Division is the Correspondence and Communication Management Branch whose functions deal with the mail system including receipt and distribution, the central files, and the various functions of yard dispatch traffic.

The Military Division in the Industrial Relations Department will have the responsibility for all military personnel. This will include keeping all the required records and personnel jackets and administering generally in all matters of a military nature. It is envisioned that no enlisted personnel will be required in the shipyard and therefore all functions relating to administration, messing and berthing of enlisted personnel have been dropped.

An Administrative Assistant to the Industrial Relations Officer has the responsibility for the necessary administrative functions of the whole department.

Comptroller Department

The Comptroller Department handles all financial aspects of the shipyard operation. The Comptroller Department, however, has a somewhat broader scope than mere accounting and disbursing. The department is responsible for implementing and administering financial systems, budgetary control programs, and statistical reports. It serves as advisor and consultant on all financial policy matters. In addition, the Comptroller Department devises internal review procedures and supervises their administration. It provides management engineering service for the entire shipyard.

The Internal Review and Management Division is composed of two branches, one having the present shipyard functions of the Internal Review Division of the Comptroller Department, and the other having the functions of the Management Planning and Review Department. In essence, management planning is considered a function of the Comptroller in the broader aspect of his job and is incorporated in the department as a part of this division.

The Budget and Statistics Division retains all the functions that this division has in the present shipyard organization. Added, also, are the reporting functions of the Analysis Branch of the present Production Department. Reports on all

phases of shipyard operation which can be generated from time cards or job orders are to be the responsibility of the Budget and Statistics Division.

The Accounting and Disbursing Division is the last of the three divisions in the department. This division includes general accounting, cost accounting, appropriation and property accounting, machine accounting and disbursing as its functions and has a branch for each function. All phases of accounting and financial administration are handled in this division as the names of the branches indicate. The disbursing function is also included in this division as a separate branch.

As in the Industrial Relations and Administrative Department, an Administrative Assistant to the head of the department will handle all the administrative functions for the entire department.

Planning Department

The concept of the Planning Department function is one of advance planning, current planning, and retrospect analysis. The department is responsible for determining what magnitude and type of work is required to keep the shipyard at full production, for maintaining the contacts with outside activities as are necessary, for planning the work programs for the ships that are assigned to the shipyard, and for analyzing the capacity and capability of the shipyard in order that future planning can be realistic. The Planning Department is responsible for providing

job descriptions of the work, plans to use in the work, and material to work with. To accomplish the Planning Department function three divisions are required: the Planning and Estimating Division, the Design Division, and the Supply Division.

The Planning and Estimating Division is established with direct line authority from the Planning and Estimating Superintendent through the Type Desks and the Chief Planner to the Advance Planning Branch, the Job Order Planning Branch, and the Analysis Branch. The Advance Planning Branch will assume those functions of the present Control Branch which are directly related to advance planning. The Job Planning Branch remains the same in the new organization as it presently exists, with one exception. The Technical Division of the Supply Department will be incorporated in the Job Planning Branch. The Analysis Branch being added to the Planning and Estimating Division will come over from the Production Department keeping the analysis functions now established for the branch in the present organization. These functions include status records of work, workload, records of backlog, and analysis of types of work required.

The Design Division will remain essentially as presently organized. Three small changes have been made. First, the Assistant Design Superintendents are included in the chain of Command and are directly under the Design Superintendent. Next, the Administrative Branch has been omitted and an Administrative Assistant has been added to assume the necessary administrative functions that will not be handled by the Industrial Relations

and Administrative Department. Last, the Value Engineering Branch has been placed under the Deputy Engineer as well as the Head Engineer.

The Supply Division of the new Planning Department is, in essence, the old Supply Department with all its functions that relate directly to shipyard operation. Some rearrangement has been accomplished. There are only two branches in the Division, the Control Branch and the Material Branch. The Control Branch contains the same four functions as the present organization: issue control, stock control, receipt control, and purchasing. Added to the branch are the disposal records function from the present Disposal Division and the audit function from the present Inventory Division. The Material Branch also contains the same four functions it presently has: traffic, storage, labor and equipment, and shop stores. Added to this branch are excess material function from the Disposal Division and the count function from the Inventory Division. The Audit, Count, Disposal Records, and Excess Materials Branches have been downgraded to sections under the new Control and Material Branches. An Administrative Assistant has been added in lieu of the Administrative Branch in the present organization.

Production Department

The function of the Production Department is based on the concept that the Production Officer is the person delegated the task of accomplishing the actual work on the ships in an economical and efficient manner. To accomplish this task the

Production Officer must have authority and control over all functions directly related to ship work. This includes production management, inspection, industrial engineering, and plant management. Each of these four functions will be handled by a division in the Production Department.

The new Production Department has a Production Manager Division in lieu of the Shipbuilding Division and the Repair Division of the present organization. The Production Manager shall be responsible to the Production Officer for the accomplishment of shipyard work. Line authority derived from the Shipyard Commander passes through the Production Officer, through the Production Manager, through the New Construction, Repair, and Manufacturing Superintendents, through the Ship Superintendents to the Ship Masters and the shop workers. This direct line authority is necessary to be commensurate with the responsibility placed on each of these persons in the chain of command. Included as part of the Production Manager Division and actually assigned to the various Ship Superintendents are the progressmen of the present Progress Branch. The Progress Branch, as such, will no longer exist. Further, the Scheduling Branch of the present Production Analysis Division is considered a staff function of the Production Manager Division and not of such stature as to be a branch. Included with the scheduling function will be manpower distribution as previously handled by the Analysis Branch.

The Inspection Division of the Production Department has

increased size and stature. Besides the inspector group, the branch will include that part of the present Welding Branch concerned with weld testing and welder qualification. In addition, the laboratories will become a part of the Inspection Division because of the large percentage of testing work the laboratories are required to do.

The third division of the Production Department is the Industrial Engineering Division. This division is made up of the industrial engineering functions of both the present Management Planning and Review Department and the present Shop Division. The division has two branches, the Plant Processes Branch and the Standards Branch. Active industrial engineering, when controlled by the Production Officer, should provide new methods and economics for better shipyard operation.

The final division of the Production Department is the Plant Manager Division. This division is basically the shipyard directed functions of the present Public Works Department. The Plant Manager Division will be made up of four branches: New Facilities, Maintenance, Utilities, and Transportation. The New Facilities Branch will have the function of planning for new facilities, doing the necessary design, contracting for the construction, and inspecting the work as it progresses. The Maintenance Branch is responsible for the upkeep and proper operation of the present plant facilities. This branch will inspect facilities, plan maintenance work, and through the services of the Maintenance Shop, which is part of the branch, make the

necessary repairs, adjustments, or preventive overhaul. The Utilities Branch is responsible for providing the Shipyard with all the required utilities. The Utilities Shop is part of the Branch. The final branch of the Plant Manager Division is the Transportation Branch. This branch is responsible for all transportation equipment in the shipyard, including automobiles, trucks, cranes, locomotives and other such equipment.

An Administrative Assistant has been provided for the Production Officer to administer personnel and office service problems. This Administrative Assistant will assume the functions of the Administrative Branch of the present Shop Division.

CHAPTER II

PROBLEM OF MISSION DEFINITION

The beginning of all organizational planning is a clearly understood objective for the organization. The task to be accomplished must be known; not just a statement of the mission, but a proper and universal understanding of what is intended. Only after the objective has been established can a logical and intelligent grouping of functions be made into a proper organizational structure. As Ernest Dale states:

Organization planning is the process of defining and grouping the activities of the enterprise so that they may be most logically assigned and effectively executed. It is conceived with the establishment of relationships among the units so as to further the objectives of the enterprise.¹

Early History of Navy Yards

The Navy Yard has always been a vital and integral part of the United States Navy. As far back as 1800 when Navy Yards were first established, they have been performing the function of supporting the fleet. The problems of organization and management, however, have been diverse and many. For example, during the period following the dispersion of bureau

¹Ernest Dale, Planning and Developing the Company Organization Structure (New York: American Management Association, 1952), p. 14.

responsibility for ship work in 1862, each bureau had its own independent department in each of the Navy Yards. Direct lines of authority and responsibility existed between the bureaus and their field units. Duplication resulted to such an extent that one Navy Yard had five machine shops, three foundries, and three different power plants.²

With the growth and development of the Navy Yards over the years, there naturally grew up within the Navy Yards other support activities such as medical facilities, dental facilities, officers clubs, enlisted men's clubs, commissaries, movies, prison facilities, supply activities, ship service stores, recreational facilities, chapels, and housing as part of the service to the fleet. A ship undergoing overhaul or conversion at a Navy Yard had immediately available all the necessary and useful facilities that could possibly be required.

Establishment of Naval Bases

At the conclusion of the war in 1945, the Secretary of the Navy determined that transition from war to peace-time operations would require reorganization of the Naval Establishment in the Navy Yard area if the industrial efficiency of the Navy was to be maintained. Therefore, in a letter dated 14 September 1945, the Secretary of the Navy gave the five principal revisions in the organization for management and control of the Navy Yards.

²E.A. Wright, "The Bureau of Ships: a Study in Organization," Journal of the American Society of Naval Engineers Inc., LXXI (February, 1959), p. 7.

a. In the locality of each Navy Yard organization there will be established a "Naval Base," which will encompass the several activities now comprising the Navy Yard, plus such additional logistic activities in the locality as specified by the Chief of Naval Operation. These additional activities may be a Naval Supply Depot, a Naval Hospital, a Naval Ammunition Depot, a Naval Receiving Station, a Marine Barracks, etc. The use of the name "Navy Yard" will be discontinued.

b. Each Naval Base will be commanded by a line officer, designated Commandant of the Naval Base, who, under the Commandant of the Naval District, will exercise military command and coordination control of the components of the Naval Base, and will be the principal point of contact between the Base and the Operating Forces.

c. Each of the component activities of the Naval Base will have a Commanding Officer who will be fully responsible for the internal management of his activity, reporting to the Commandant of the Base for military and coordination control and to the cognizant agencies of the Navy Department for management and technical control.

d. One of the component activities of each Naval Base established in the locality of a present Navy Yard will be a "U.S. Naval Shipyard," commanded by a technically trained officer, under whose control will be integrated all of the activities of present Navy Yards which are related, directly or indirectly, to the building, repairing, overhauling, docking, altering, converting and outfitting of ships; and to related or special manufacturing.

e. The management control of all U.S. Naval Shipyards will be the direct responsibility of the Bureau of Ships, under the direction of the Secretary of the Navy and the Chief of Naval Operations. The technical control of the work of each Shipyard is vested in the cognizant agencies of the Navy Department.³

Implementing the Secretary of the Navy's letter was General Order No 223 dated 14 September 1945. Paragraph 3 states:

The mission of a Naval Base is to furnish direct service to the Operating Forces. A Naval Base is defined as

³Secretary of the Navy letter, "Reorganization of Navy Yards and Establishment of Naval Bases," Washington, D.C., 14 September 1945, p. 2.

that agency in a given locality which comprises and integrates all naval activities which are capable of contributing to its mission.⁴

and continuing, paragraph 5 says:

In addition to the Shipyard, each of the above specified Naval Bases will contain other activities, which are now located in each Navy Yard or which may subsequently be made a part of the Naval Base by direction of the Chief of Naval Operations. Examples of such additional activities which may form a part of the Naval Base are a Naval Supply Depot, a Naval Hospital, a Naval Ammunition Depot, a Naval Net Depot, a Naval Receiving Station, a Marine Barracks, etc. The activities to be included within each Naval Base will be designated on the basis of: (1) their nearby physical location with respect to other natural component functions of the Base; and (2) their essentiality to the Base as a whole in providing direct logistic services to the operating commands dependent upon them.⁵

Thus, the Naval Base Commander was directed to provide the Operating Forces with the services they required, and he was given the command and coordination responsibilities for this mission. The Naval Base became an organizational consolidation of numerous activities. The task of the Naval Base Commander was to coordinate these many activities under his control to provide more efficient and more complete service to the Fleet. Through this Navy reorganizational effort the Naval Shipyard was relegated to being a component of a Naval Base Command.

Mission of the Naval Shipyard

With the establishment of the Naval Base, the function

⁴Navy Department, "Reorganization of Navy Yards and the Establishment of Naval Bases," General Order No. 223, Washington, D.C., 14 September 1945, p. 1.

⁵Ibid.

of the Naval Shipyard was reduced considerably in scope. General Order No 245 dated 27 November 1946, gives the mission as follows:

The mission of a naval shipyard is to provide logistic support to the operating forces in the form of efficient and economical building, repairs, alterations, overhauling, docking, converting or outfitting of ships and related special manufacturing, and necessary replenishment of stores and supplies where required.⁶

Thus, the mission of the naval shipyard has been narrowed to providing logistic support in the area of ship construction and repair and replenishment of stores. It was clearly the intent of the Secretary of the Navy to organize the Naval Shipyard as an industrial activity only, and to organize the Naval Base to provide the other services to the Operating Forces. Quoting a letter from the Secretary to the Chief of Naval Operations:

In order that each Naval Base shall render adequate service to the Operating Forces, it is my desire to determine at the earliest possible date...what new installations should be established in the future to expand the Base organization in order that it may render more adequate service to the Operating Forces, and to permit the removal of "non-industrial" activities from the Shipyard.⁷

The mission of the Naval Shipyard is thus clearly to provide logistic support in the ship construction and repair area and that the organization should be essentially industrial.

⁶Navy Department, "Relationships of Shore Activities of the Naval Establishment and Functions and Duties of Certain Shore Commands," General Order No 245, Washington, D.C. 27 November 1946, p. 9.

⁷Secretary of the Navy letter to the Chief of Naval Operations, "Composition of U.S. Naval Bases," Washington, D.C., 14 September 1945, p. 1.

Function Transfers Required

The functions of the various departments of the shipyard indicate an extensive pattern of shipyard activity. And though the Naval Base assumed the many extraneous functions related to fleet support, particularly those which were non-industrial, the Naval Base Commander in many cases has implemented that part of General Order No 245 which directed him to "...utilize the administrative organization of the component activities of the Naval Base, insofar as practicable, in the administration of the Base."⁸ As a consequence, the shipyard still has many non-industrial functions unrelated to the shipyard mission. The shipyard in fact receives technical guidance from the Bureau of Aeronautics, the Bureau of Ordnance, the Bureau of Yards and Docks, the Bureau of Supplies and Accounts, the Bureau of Medicine and Surgery, and the Bureau of Naval Personnel.

Recalling the stated mission of the Naval Base, it seems that the logical organization for service to the fleet should begin at this level. The Naval Base should organize along functional lines and assign responsibility for only one function to each of the many components of the Naval Base Command. The naval shipyard can then be given the primary mission of performing work in connection with the construction, conversion, overhaul, alteration, repair, drydocking and outfitting vessels of the United States Navy. Functions not directly related to this

⁸Navy Department, General Order No 245, p. 9.

mission should be transferred to the Naval Base for reassignment in accordance with a proper functional organization structure.

This study does not include a reorganization study of the Naval Base for the purpose of accommodating functions not applicable to the shipyard. The transfer of functions to the Naval Base is mentioned only generally to denote that transfer is practical. Transfer of functions from the shipyard are considered necessary, however, to be able to streamline the shipyard operation by retaining within the shipyard organization only those functions that relate directly to the shipyard mission.

In summary, the Naval Shipyard should be an industrial organization. Its functions should be limited to those pertaining to the construction and repair of ships, which is the primary mission of the shipyard. The transfer of functions from the shipyard organization does not mean an exodus of functions from logistic support of the fleet. Rather, the support functions will be available as always, but through the Naval Base organization. The top level of management of the Shipyard will be smaller, but this smaller group will be able to concentrate more completely on the job for which this management is trained and has derived its experience.

CHAPTER III

PROBLEM OF DEPARTMENTATION

Having properly completed the first step in successful organization by clearly defining the mission and objective of the shipyard, the second step to be taken is proper departmentation of the functions required to achieve the objective. Grouping activities into major operating departments is basic in establishing an organizational structure.

Organization provides a means for breaking down the work of management into its component elements for assignment of authority and responsibility. But most organizations are composites. It is extremely difficult to follow any set pattern for grouping activities. There is no set of rules or general formula to follow. Considerable judgement is required to establish proper departmentation so that functional objectives can be clearly defined.

Peterson and Plowman state that "the purpose of departmentation is threefold: (1) to specialize executive ability, (2) to simplify the tasks of management, and (3) to group employees for the purpose of direction and control."¹

¹Elmore Peterson and E. Grosvenor Plowman, Business Organization and Management (Homewood, Ill.: Richard D. Irwin, Inc., 1958), p. 284.

As one of the basic tasks of administration is control, grouping should be such as to insure clear-cut accountability. Sound organizational relationships of authority and responsibility are required. This in turn is influenced by the line and staff relationships established. Departmentation is also limited by the degree of centralization or decentralization and by the span of control desired in the organization.

Authority and Responsibility

Responsibilities assigned to an individual or to an organizational unit should have corresponding authority given. When any person in an organization has more than one person, not in the chain of command, to whom he reports or when any person in an organization is not sure of the people he may direct, confusion will certainly result. Such confusion will handicap the performance of the entire organization.

One of the major areas where responsibility, authority, and accountability are not clearly defined nor understood is the military-civilian relationships. Within the various departments the relationships are not uniform and in some cases not logical. For example, some department heads use the military officers for special assistants, some use them in a staff capacity, and some very few use them in the chain of command either as a deputy or a division head. Thus the organizational relationships that exist are not clear cut along any line or level. Fundamentally, staff authority is advisory and auxiliary in nature. It is not

a special or an alternate type of authority. Therefore, military officers who are assigned responsibilities should not be placed in staff positions in the organizations. They should be given a function and the necessary personnel and facilities to carry on the function assigned.

In the new shipyard organization the principle that officers have responsibility and are therefore in the chain of command has been used. Assistants, Assistants to, and Special Assistants have been generally eliminated from the organization.

Line and Staff Relationships

Line organization is the backbone of management. It is the type of organizational structure in which there is a direct flow of authority through each level of the management chain. In a true line organization all departments are organized to perform a part in the accomplishment of the organization mission; there are no departments in the organization equipped to provide service or give advice. The line organization has the advantage of clear-cut lines of authority and responsibility. Each person knows his position in the organization, knows who his superior is and who his subordinate is. This enhances the lines of communication which are principally vertical from superior to subordinate. As organizations grow in size, however, the line organization is faced with limitations. Because the line organization is fundamentally a vertical exchange, it tends to emphasize individual action rather than cooperation. It further

causes an undo work-load to be placed on each supervisor because there are no assistants or specialists to assist and advise him. The line organization, therefore, gradually evolved into a line and staff form to overcome these inherent disadvantages and weaknesses. This type of organization fits the needs of the naval shipyard. It provides the necessary discipline and continuity through its line organization and the essential technical advice and service through its staff organization. These two systems are not counter to each other but complementary. The line and staff departments must cooperate in their work and coordinate their functions. Actually they stand at the same organizational level, but the line exercises authority while the staff supplies advice and service.

Centralization or Decentralization

Centralization or decentralization are not measures by which to determine proper departmentation. Peterson and Plowman state there are three ways in which centralization and decentralization occur in organization. First, there is the concentration of authority at the top level of management. Next, there is the extent to which activities should be centralized in particular departments. And finally, there is decentralization of performance involving the location of operations.² Because centralization is not always desirable and decentralization is not always possible, a "limited" decentralization has developed. With

²Ibid., p. 407

this method the policies and major procedures are handled by the top command while the specific day-to-day planning and operations are delegated to first or second echelons.

The use of limited decentralization in the shipyard organization follows naturally. Uniform policies and procedures are necessary and can only be controlled by centralization at the top level of command. However, the day-to-day operations within the framework of the established policies and procedures can easily be carried on by the Department and Division Heads.

Span of Control

One of the limiting factors on the number of departments that should constitute a proper shipyard organization is span of control, or the number of subordinates a person can manage effectively. There is presently no uniform pattern to indicate the exact number of subordinates any executive should have. Based on results from a survey among 100 companies each employing over 5,000 employees and 41 companies employing from 500 to 5,000 employees, as reported by George R. Terry, the median number of subordinates supervised by the president was between eight and nine for the larger companies and between six and seven for the small companies.³ General management practice advocates that effective management is best attained by limiting the number of persons who report to one common superior. It is further advocated that the higher the executive is in the chain of command the

³Terry, p. 239.

fewer should be his direct subordinates. The reason for these practices is to free top management from details and routines, allowing more time for major problems and decisions. Nevertheless, the underlying problem of span of control versus the number of organizational levels can not be allowed to move too far in either direction. As with most other problems in organization development practical judgment must be exercised.

One additional difficulty is encountered when applying the span of control to the establishment of standard organizations. This involves the spans of knowledge, energy, attention, and personality of the individual. These qualities are found in varying degrees in different persons. Definite limitations in organization are exercised by an executive's knowledge and ability, by his physical and mental endurance and energy, and by his ability to influence people. A standard organization covering the many shipyards is unable to take this important factor into account.

The Shipyard Departmentation

Departmentation of the naval shipyard organization began with the development of a list of necessary functions. The necessary functions were determined by analysis of the shipyard mission and objectives. These functions were then placed into logical groups which subsequently developed along four basic lines. Thus, four departments were accepted as the basic department structure for the new organization. The fact that the

number of shipyard departments was reduced from ten to four was not an established goal of the new organization. Rather the general plan was only to group the functions with the view toward some reduction if possible, in conformance with a span of control limitation.

For the grouping arrangement it was obvious that the Production Department was the main line function of the Naval Shipyard. Therefore, to the Production Department should be allocated all those functions which bear directly on getting a ship repaired or constructed. The Production Officer who is charged by the Shipyard Commander with the responsibility for the timely and economical completion of work should control all facets of the operation so that his authority is as broad as his responsibility. To be included in the Production Department besides the Production Manager Division and the production shops, therefore, should be the functions of inspection, industrial engineering, and plant management. When the Production Officer has all these functions under his control, he has within his capacity the necessary flexibility to carry out his job as he should.

The Planning Department is the other major line department. The Planning Officer is responsible for determining the scope of work to be undertaken, the time available, and the funds required. The Planning Department should provide the Production Department with job orders which are the written work specifications, the plans which are produced after necessary design, and material which must be provided through stock or purchase. Thus

the Planning Department should include all functions related to job planning, design, and supply.

Two staff areas developed in grouping the functions: finance and personnel. So the Comptroller Department became part of the organization to advise both the Planning and Production Departments on all fiscal matters including fund status, manpower costs, overhead rates, material costs, and all other information that can be derived from accounting records. To the Comptroller Department was also given the management engineering function. This fits into the broader aspect of the Comptroller area of responsibility for management methods and procedures. The mechanics of accounting and disbursing are, of course, included in the work of the Comptroller Department.

The personnel functions all fit together very well into an Industrial Relations and Administrative Department. Only one function, that of Military Personnel, is beyond the scope of industrial relations and administrative services, but due to the limited number of persons involved and due to the general similarity of functions, a separate division in this department seems more plausible than a separate department.

Through the resultant combination of functions, the organization that is proposed is streamlined and easily controlled. Basically, the naval shipyard should produce more efficient results through better management which can be facilitated by this simpler organization.

CHAPTER IV

PROBLEM OF FUNCTION CONSOLIDATION

Planning the organization of a Naval Shipyard must begin with the basic element of organization - the function. As Terry states, "Functions are the main entities around which a manager builds an effective organization structure."¹ First, there must be the recognition of the functions by their distinctive characteristics, and second, the ability to combine these functions into coordinated and efficient groups. Organization Planning for Naval Units gives the following list of considerations regarding the assignment of functions:

1. Every necessary function must be provided for within the command to insure accomplishment of its mission.
2. Every function of the Command should be assigned to a specific organizational unit. Under normal circumstances no single function should be assigned to more than one unit.
3. Functions that are closely related or similar normally should be assigned to a single organizational unit.
4. Responsibilities of two or more units that are inter-related should be clearly defined with respect to each unit, particularly as to action and review responsibilities.
5. There should be no overlapping, duplication, or conflict between organizational elements.
6. Functions should be assigned on such a basis as to minimize cross-relations between units.
7. Line functions should be separated from staff functions.
8. Functions should be assigned to promote balance, and

¹Terry, p. 249.

avoid overemphasis of less important functions and underemphasis of more essential functions.²

As an organization grows in size and scope, there is a natural tendency to increase the number of functional groupings. Many times the increase in number of organizational units is accomplished by splitting an existing function. This not only increases span of control but soon develops duplication and dispute in the responsibility of each department. There is a definite need for judgment in consolidating functions in order to achieve a balance in organization.

Function Analysis of the Naval Shipyard

The new shipyard organization has been put together on a basic departmental framework. All the necessary functions have been streamlined to produce a more efficient and more economical working organization.

The Naval Shipyard is under the Command of a Naval Officer assigned by the Department of the Navy from those officers who are technically trained in the building and repair of ships and have had previous experience in the technical and management phases of such work.³ The Shipyard Commander has full responsibility for the quality and quantity of work performed by the Shipyard and for the efficient, timely, and economical performance of this work. He is under the military command and

²Bureau of Naval Personnel, NAVPERS 18371, p. 2-3.

³Navy Department, United States Navy Regulations (Washington: U.S. Government Printing Office, 1948), p. 192.

coordination control of the Naval Base Commander.

The present Naval Shipyard is organized into ten departments, two serving in a staff capacity, while the other eight being oriented as line departments. The staff departments are the Industrial Relations and Management Planning and Review Departments. The eight line departments are Planning, Production, Public Works, Supply, Comptroller, Medical, Dental, and Administrative. This organization is shown graphically in Appendix A on figures 1 through 11. In the present shipyard organization there are well over one hundred different functions. These are the functions that must be reorganized by putting similar functions together, by eliminating needless functions and duplication of functions, or by transferring functions unrelated to the shipyard mission to the Naval Base. Each of the present ten departments will be discussed in relation to the functions being consolidated, eliminated, or transferred. These functions will be analyzed and properly relocated in the new organization.

Management Planning and Review Department

The Management Planning and Review Department, headed by the Industrial Engineering Officer, has responsibility for these functions of the shipyard: industrial engineering, industrial management, and mobilization planning. The Industrial Engineering Officer and the industrial engineering function logically belong in the Production Department. The industrial management function fits neatly into the broad scope envisioned for the Comptroller Department. And the function of the Mobilization

Division covers the entire Naval District in its planning of mobilization capacity and availability. It seems logical that a function of this broad scope should be administered by higher echelon than the Shipyard. The Shipyard's small part in mobilization planning can be handled by a section of the Management Engineering Division.

With all the functions of the Management Planning and Review Department thus transferred, the department as such can be eliminated.

Industrial Relations Department

The Industrial Relations Department deals completely with employment of civilian personnel for the shipyard and the problems of the civilian employees once they are working in the shipyard. All these functions are necessary and properly placed in the organization. In the new organization, however, the functions are reduced in stature from division level to branch level as being more appropriate in the over-all balance of the organization.

Planning Department

The Planning Department is responsible for over-all job planning, arrangements regarding ship availabilities, requisitioning material for work on hand, engineering consultation and investigation, design and drafting work, and technical advice, inspection, and final testing of ordnance and electronics equipment. These responsibilities are assigned to four divisions: Planning and Estimating, Design, Ordnance, and Electronics. The

Ordnance and Electronic Divisions of the Planning Department in the present shipyard organization were the result of reducing these groups from departments to divisions. In their former departmental stature the Electronics and Ordnance groups spanned all phases of shipyard work including planning, designing, and inspecting. They served as a staff to the Planning and Production Departments. When reorganization of the Electronics and Ordnance Departments was brought about, many of their functions were absorbed in divisions and branches of the relevant departments. The proposed organization now assumes a complete absorption of the electronics and ordnance functions and the elimination of these divisions as organizational units.

All other functions presently in the Planning Department are considered necessary and have been retained in the present organization.

Consideration has been given to the transfer of all detailed job planning and all water-front design work to the Production Department. The Planning Department would then be composed solely of the type desks and have only the broad functions of over-all planning. The Type Desks would require an increase in personnel having engineering qualifications. The present job planners, recruited from the shops, would do the same detailed job writing but be under the control of the Production Officer. Such an arrangement has merit in placing every line function in one department. However, the use of two line departments is considered justified by keeping the span of control to reasonable

limits in all departments and by securing a better balance for the over-all shipyard organization.

Production Department

It is the function of the Production Department to accomplish the work authorized both economically and within the time allocated. Five divisions plus the production shops make up the department organization. This organization received the greatest function rearrangement of any other department in the proposed reorganization. The Production Analysis Division has been eliminated and the functions of its branches placed elsewhere. The analysis branch was transferred to the Planning and Estimating Division, except for report preparation which was transferred to the Comptroller Department. The Progress Branch was eliminated and the progressmen were assigned to the various Ship Superintendents as assistants. The scheduling branch was reoriented to be a staff for the Production Manager's Office. And the Standards Branch was placed in an Industrial Engineering Division of the Production Department.

In the area of the Shipbuilding Division and the Ship Repair Division there is a great deal of function duplication. These divisions are in the line chain of command to carry out the mission of the shipyard. These divisions, however, have no direct authority over anyone to enable them to fulfill their responsibility in the present Shipyard organization. For the proper responsibility-authority balance the Assistant Repair Superintendents, the Ship Superintendents, the Assistant Ship

Superintendents and the shops themselves must all be in one chain of command. Therefore, in order to relate the Production Officer and the Shop Masters through one chain of responsibility and authority, a general manager function has been established which incorporates ship building, ship repair, and manufacturing. These three functions will be handled by three assistants who will be in the chain of command and can be designated Shipbuilding Superintendent, Repair Superintendent, and Manufacturing Superintendent and will be responsible to the General Manager for the proper operation of their special function. Ship Superintendents will be assigned to the Shipbuilding Superintendent and the Repair Superintendent as the next level in the breakdown of the chain of command. Shop Masters will then work through the Ship Superintendents, the Shipbuilding, Repair and Manufacturing Superintendents to the General Manager and the Production Officer.

The problem of reducing span of control for the Production Manager by placement of a management level between him and the Shop Masters has been considered. For example, the shops could be grouped under engineers into those concerned with hull trades, those concerned with machinery trades, and those concerned with outfitting trades. Such an arrangement is organizationally feasible and organizationally sound, but not considered practical for a standard shipyard organization at this time.

The Shop Division of the present shipyard organization has essentially an administrative and industrial engineering type of function. The various industrial engineering functions such

as plant processes can be combined and absorbed by the new industrial engineering function. The administrative functions are all being handled by Administrative Assistants to the Department. The functions of the Shop Division are therefore absorbed and the Shop Division can be eliminated from the organization.

The inspection function is required in the Production Department. Included as branches in the Inspection Division will be the laboratories and their testing facilities and the Welding Branch and their weld testing.

Public Works Department

The Public Works Department has the function of designing, constructing, and maintaining all the public works of the shipyard including operation of utilities where necessary. In addition, the Public Works Officer is responsible for the preparation of the Annual Shore Station Development Board Report, including necessary plans and specifications.

A review of the responsibilities of the Public Works departments would indicate that much of the Department should be transferred to the Naval Base. Only those functions related directly to the industrial activity of the shipyard should be retained as an integral part of the shipyard. The maintenance of quarters and housing, of recreational buildings, of public roads and miscellaneous land areas could well be placed under a Public Works Officer assigned as a department under the Naval Base Commander.

The functions to be retained as part of the shipyard

organization include design and construction of new plant facilities, maintenance of present facilities and provision of utilities and transportation. These functions have been grouped together under a Plant Manager and transferred to the Production Department as a division, eliminating the Public Works Department from the shipyard organization. Internal arrangement of the functions are aligned in branches reflecting new facilities, maintenance, utilities, and transportation.

Supply Department

The function of the Supply Department is to administer the material requirements for shipyard operation. This function includes all aspects of shipyard material procurement, handling, and storage. The Supply Officer is also responsible for rendering supply services, as necessary, to other component activities within the Naval Base, to visiting ships, to forces afloat, and to district activities.

The Supply Department should be split into those activities which pertain to support of the shipyard and those which directly support the Operating Forces. Those functions which are required for shipyard operation should be retained; the others should be reassigned to the Naval Base under the command of a Supply Officer or transferred to the nearest Naval Supply Depot if one already exists in the Naval Base Command.

Those supply functions which contribute to shipyard operation are considered to be more properly a part of the planning function and are transferred as a division, therefore, to the

Planning Department. In this way the Supply Department is eliminated from the shipyard organization.

There are presently seven divisions in the Supply Department. The functions of five of these divisions are not considered of significant importance to warrant divisional status. With the transfer of the supply function to the Planning Department, the Planning Division can be dropped. Further, the functions of the Administrative Division can be assigned to an Administrative Assistant and the division eliminated. The Technical Division function is very closely related with the material specification and material substitution problems of the Job Planning Branch of the Planning and Estimating Division. The Technical Division could best be absorbed or integrated with the Job Planning Branch. In like manner the functions of the Inventory Division and the Disposal Division are not of such magnitude and so diversified as to warrant separate divisional distinction. Therefore each of these divisions was broken up into a control function and a material function for grouping along those lines.

Comptroller Department

The Comptroller Department is oriented to perform functions related solely to shipyard activities. The department is charged with management of all financial aspects of the shipyard. Other functions established in the department relate to budget, statistics, internal review, and management engineering. These functions are all retained in the proposed organization.

Functions which are not considered essential to the

department include the Special Assistant to the Comptroller who has been dropped, and the Administrative Division which has been replaced by an Administrative Assistant to the Head of the Department.

Medical Department

The Medical Department is responsible for providing medical care for the military personnel on duty in the shipyard and on ships and craft at the shipyard not having medical officers, including the dependents of such military personnel. The Medical Department also has the responsibility for maintaining continuous emergency medical and ambulance service for the shipyard and providing for first aid and medical care for employees who are injured or become ill while on the job.

The Medical Department should transfer all its medical functions, except those directly related to industrial medicine and those required for emergency medical treatment, to the nearest naval medical facility.

The medical functions retained in the shipyard should be consolidated into the function of industrial medicine and organized as a unit. Separate phases are not considered warranted. Industrial Medicine can then be considered a branch and placed in the Administrative Services Division of the Industrial Relations and Administrative Department.

Dental Department

The Dental Department is responsible for proper dental treatment for all military personnel on duty at the shipyard and

on duty on ships at the shipyard. In addition the Dental Department shall render professional service to personnel of other naval activities as may be prescribed or authorized.

The Dental Department having no relation to the shipbuilding and repair mission nor to any industrial aspects concerning personnel can be transferred in its entirety to the nearest medical facility.

Administrative Department

The functions of the Administrative Department include security of the shipyard, providing both police and fire protection, ship movements and berth assignment, operation of shipyard assigned tugs and other specially assigned craft, and administration of the enlisted personnel attached to the shipyard. In addition the Administration Department is responsible for the Administrative details of the shipyard, including communications, mail, files, and other administrative services.

The Administrative Department has several functions which should be properly handled as an activity of the Naval Base. First, the Naval Shipyard should not be in the housekeeping business for military personnel. Barracks and messing facilities should be handled by the Naval Base for all the personnel of all the Commands attached to the Base. Next, ship movements are part of the duties of the District Commandant and thus a real function of Naval Base. Thus, ship movements should be transferred to the Naval Base Command and with the responsibility there should be transferred the control of the pilots and the

operation of the tugs. Ships arrivals and departures can be managed in the shipyard through the Cognizant Type Desk Officer. Berthing can be arranged through the Production Manager.

Another consolidation of functions is possible in the area of communications and mail distribution. All phases of handling and delivering letters and dispatches can be combined into one correspondence management function. This function can be located as a branch in the Administrative Services Division of the Industrial Relations and Administrative Department.

Security as evidenced by the police and fire protection can also be located in the Administrative Services Division.

Summary of Functional Grouping

The transfers, eliminations and combinations of functions, which have been described, have resulted in reducing the number of functions to approximately half the original number. Grouping these functions within the basic four departments evolved an organization in which the Industrial Relations and Administrative Department has four divisions, the Comptroller Department has three divisions, the Planning Department has three divisions, and the Production Department has four divisions. The number of divisions in the shipyard organization has been reduced from forty-five to fourteen. Thus, the span of control for the department heads, as well as for the Shipyard Commander, has been greatly reduced.

CHAPTER V

PROBLEM OF ORGANIZATION AS WORKED OUT IN CIVILIAN SHIPYARDS

The problem of organization is one that has no definite and calculable answer. Each organization plan is established to fit the mission of the specific company or activity, but is generally allowed to stretch as necessary, to fit the people who are placed, and must work, within the framework of the organization. Nevertheless, each type of industry has characteristics which influence the organizational structure. In fact, general principles should be followed in all organizations. Therefore, though the Naval Shipyard organization is more rigid and must fit the personalities of many persons in widely divergent sections of the country, a review of several of the civilian shipyard organizations should provide a worthwhile basis for comparison.

Bath Iron Works Corporation

The Bath Iron Works Corporation organization is shown in broad outline in figure 6. From this chart the four persons reporting directly to the President are clearly indicated. Their areas of responsibility are finance, production, technology, and personnel.

The Corporation Secretary-Treasurer is responsible for

the finance area. His assistant is the Corporation auditor. There is no Comptroller designated on the organization chart. Included in the finance area, in addition to the regular accounting and auditing functions, are the purchase department and the stores department.

A Works Manager is in charge of all production. Reporting to him are the Machinery, Hull, and Outfitting Superintendents who control the shops associated with these groupings. In addition, the Plant Engineer, the Production Planning Department, and the Estimating Department report to the Works Manager. Included as part of the plant engineer function is security of the yard.

The Technical Manager is responsible for the engineering and the drafting work of the company and has under him the engineers and the draftsmen.

The chart indicates that the Director of Personnel is responsible for the usual industrial relations functions that are part of any organization.

Newport News Shipbuilding and Dry Dock Company

Figure 7 is the general organization of the Newport News Shipbuilding and Dry Dock Company. This Company uses the Executive Vice-President as coordinator of the various areas of responsibility. He is the only person directly responsible to the President. Reporting to the Executive Vice-President are the General Manager, the Comptroller, the Sales Manager, the

Figure 1

Production Manager and the Atomic Power Engineer. The Submarine Reactor Plant Engineer and the Quality Inspection Engineer for Nuclear Propulsion also report to the Executive Vice-President.

The General Manager is responsible for productive work. Under the Assistant General Manager and the Construction Manager CVA (n) Propulsion Plants are five shop divisions headed by Superintendents: Steel Hull, Hull Outfitting, Machinery, Machine Shops, and Foundry. Also reporting to the General Manager is the Purchasing Agent, the Supply Division, the Personnel Division, the Plant Engineers Division, and the Time Study Department.

The Comptroller handles all financial matters including the accountant's functions and the treasurer's function.

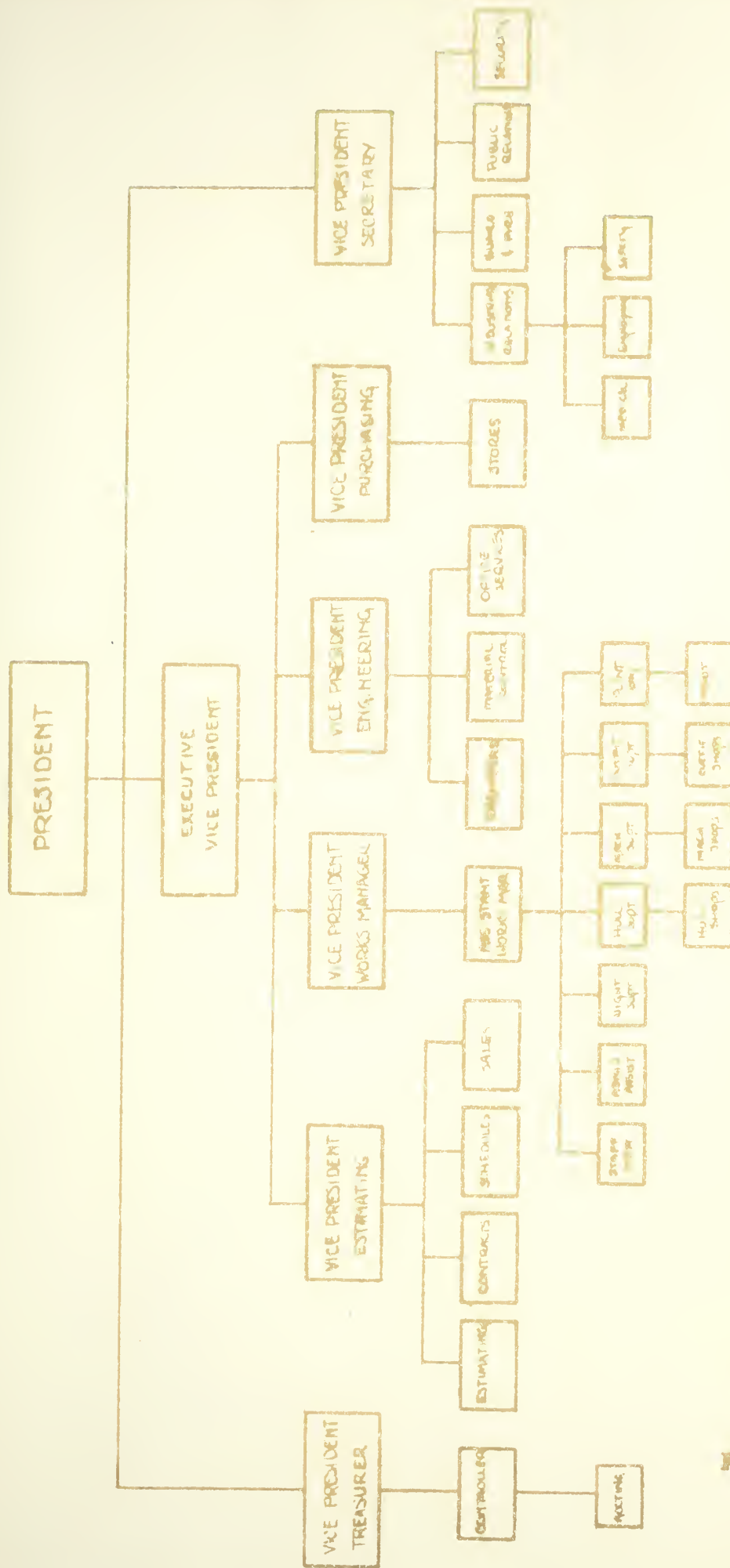
All design work and such engineering as production engineering and cost engineering are under the Production Manager. This group also includes the Research Engineer and the Submarine Technical Department.

New York Shipbuilding Corporation

The general organization of the New York Shipbuilding Corporation is shown in figure 8. This chart shows only three persons reporting to the President of the corporation: the Secretary, the Treasurer, and the Executive Vice-President.

The Secretary is responsible for all industrial relations functions, such as employment, safety, and medical facilities. Also under the Secretary are security and public relations.

The Treasurer handles all financial matters, including



NEW YORK SHIPBUILDING CORPORATION ORGANIZATION (OCT 58)

Figure 82

accounting. A Controller is directly responsible to the Treasurer.

The Executive Vice-President is responsible for all phases of operation. Production is handled through a Works Manager and an Assistant Works Manager. Under the Assistant Works Manager are the Hull, Machinery, and Outfitting Superintendents with the corresponding shop groups. Also included under the Assistant Works Manager is the Plant Engineer. The other functions of operation are handled by Vice Presidents of Estimating, Engineering, and Purchasing, all responsible to the Executive Vice-President.

Comparative Summary

In general, the functions of the civilian shipyards are the same as those proposed for the standard naval shipyard organization. Also, in all three companies reviewed, the span of control at the top levels of management was very small which compares favorably with the proposed reduction of departments to four. Two of the companies had an executive vice-president but in only one was he in a position of "deputy" or "assistant president". For the naval shipyard such a position was not established. It was felt that access to the Shipyard Commander by the Department Heads would better serve the purposes of the naval shipyard organization.

In all the shipyards reviewed the financial responsibility was a separate organizational entity. The Comptroller

Department in the proposed shipyard organization follows this pattern.

Industrial relations had separate organizational status in two of the three companies. In the third company this function was included with the production activities. Because personnel problems in the naval shipyard are generally shipyard-wide, the use of a separate staff department in the proposed organization appears to be a good solution.

The productive operations of all the shipyards reviewed were organized into composite but distinct areas. All the shipyards had the plant engineer or plant maintenance under the production manager. The proposed shipyard organization incorporates this idea. All the shipyards also have the shops divided in hull, machinery, and outfitting groups each under a superintendent. This idea has merit but was not used in the naval shipyard organization due to the use of ship superintendents in the navy yard. To a certain extent the ship superintendent performs some of the functions of the hull, machinery, and outfitting superintendent when he plans his ship work and attempts to keep the proper trade distribution on the ship for smooth and efficient work progress.

The Planning Department as established in the naval shipyard organization does not exist in any of the civilian shipyards. The functions of estimating, engineering, and purchasing do exist, however, although placed in widely varying locations. Estimating was directly under the executive vice-president in one

case, under the production manager in another case, and combined with engineering under the production manager in the third case. Design engineering was a distinct organizational unit in two of the companies. Purchasing ranged from the financial area to the production area to reporting directly to the executive vice-president. The need for a Planning Department in a naval shipyard may be questionable. The functions of the department, except for the Type Desks of the Planning and Estimating Division could logically be placed in the Production Department. However, to achieve balance and to group related functions more closely, the proposed standard naval shipyard organization has a Planning Department.

The overall pattern of organization of the civilian shipyards compares favorably in most areas with the proposed standard naval shipyard organization. Differences that do exist are generally minor and local rather than major differences of opinion on basic organization.

CHAPTER VI

SUMMARY AND CONCLUSION

The organization of a Naval Shipyard follows a standard pattern established by the Standard U.S. Naval Shipyard Regulations. These regulations are prepared and distributed by the Bureau of Ships, which has both management and technical control of Naval Shipyards as specified in Navy Regulations.¹ Minor deviations from the standard organization are allowed and may be instituted by the Commanding Officer of a Naval Shipyard at his discretion. The Bureau of Ships, however, must be notified of these organization changes for information and study and possible regulation changes if considered necessary and are desired for all shipyards.

Realizing that the present organization is a working organization, care must be exercised in making any recommendations that are at wide variance with the proven fact. There is, however, a constant striving to improve what exists, and it is in this vein that a new standard naval shipyard organization has been worked out. Specifically, the need for economy was considered paramount. The skyrocketing overhead should be able to be reduced through reduction of overhead functions. Functions can

¹Navy Department, United States Navy Regulation, p. 48.

be reduced by elimination of nonessential functions, by combining several functions into one, or by transferring unrelated functions to a proper organization. Functions unrelated to the shipyard mission or objectives should not be in the shipyard organization. The result of such a function evaluation provides the basis for a much simpler organization.

In striving for a simpler organization, concentration should be directed to making the shipyard a completely industrial activity. If all non-industrial functions are transferred from the shipyard organization, the shipyard can become a truly self-supporting industrial activity more readily comparable with civilian shipyards. Every cost incurred by the shipyard will be directly related to shipyard operation and can justifiably be considered in determining prices to customers. Funding procedures and overhead determinations should become somewhat easier. Total shipyard effort can be concentrated on accomplishing the shipyard mission.

It is, of course, true that reorganization never solves any problem. It does, however, change the framework in which the problems can be analyzed and worked on. This in itself may be enough to promote the results desired. "Good organization structure does not by itself produce good performance....But a poor organization structure makes good performance impossible...."²

Organization plans can not be static. As no one form of

²Peter F. Drucker, The Practice of Management (New York: Harper Brothers Publishers, 1954), p. 225.

organization will cover all types of activities, neither will one form of organization fit an organization for all time. Naval Shipyards have had at least six major organizational frameworks during their history.³ However, though the organization may change, the attributes of a workable organization plan should remain constant. Richard N. Owens has prepared the following list of such attributes:

1. Adaption to the enterprise
2. Authority to Act
3. Channels of supervision and communication
4. Lines of promotion indicated
5. Logical assignment of responsibilities
6. Regard for personal capacities
7. Proper distribution of work
8. Balance
9. Centralized authority
10. Coordination.⁴

The adaption of the proposed organization to a standard shipyard has been a fundamental aim in the reorganization study. Only functions which pertain directly to the construction and repair of ships have been retained. As part of this concentration on adaption, a review of the present functions was considered necessary. From this review a redefining and regrouping of functions was made to get a properly oriented organization. The proposed organization plan is a result of concentrating on development of an industrial activity.

The second attribute, authority to act, requires a clear demarcation of departments and divisions so that everyone knows

³Wright, p. 7.

⁴Richard N. Owens, Management of Industrial Enterprises (Homewood, Ill., Richard D. Irwin, Inc., 1957), p. 63.

his scope of authority and when he has the authority to take required action. By reducing the number of departments and the number of divisions, the areas of authority are all clearly defined in the proposed shipyard organization.

Logical assignment of responsibilities has been achieved in the proposed shipyard organization by the regrouping of related activities, yet maintaining distinct divisions for each major function. Placement of the military officers in the chain of command in the Planning and Estimating Division, in the Design Division, and in the Production Manager Division was considered necessary to insure a logical assignment of responsibilities in these areas. In this matter, also, correct placement of authority as well as responsibility was necessary. At all times and in all situations, authority should be commensurate with responsibility. The chains of command in the proposed organization eliminate functions having responsibility but no authority. Each individual in the organization can be charged with specific responsibility and can be held accountable for the results of his efforts.

Balance is extremely important in any organization, insuring that each department and division is of such size as to complement the other departments and divisions. If one department is too large in comparison to the others, effort will be wasted and inefficiency will develop. Balance must also be considered in determining the number of functional groups versus the limitations of span of control. The proposed shipyard

organization has attempted to establish a necessary balance. In some instances this may not be readily evident. For example, in the Planning Department, the Design Division has a large number of Branches, whereas the Supply Division has only two branches. However, as Terry says "There is no virtue in striving to achieve conformity of departmentation..."⁵ and in this case the grouping of functions and distribution of work was such as to recommend this organizational structure.

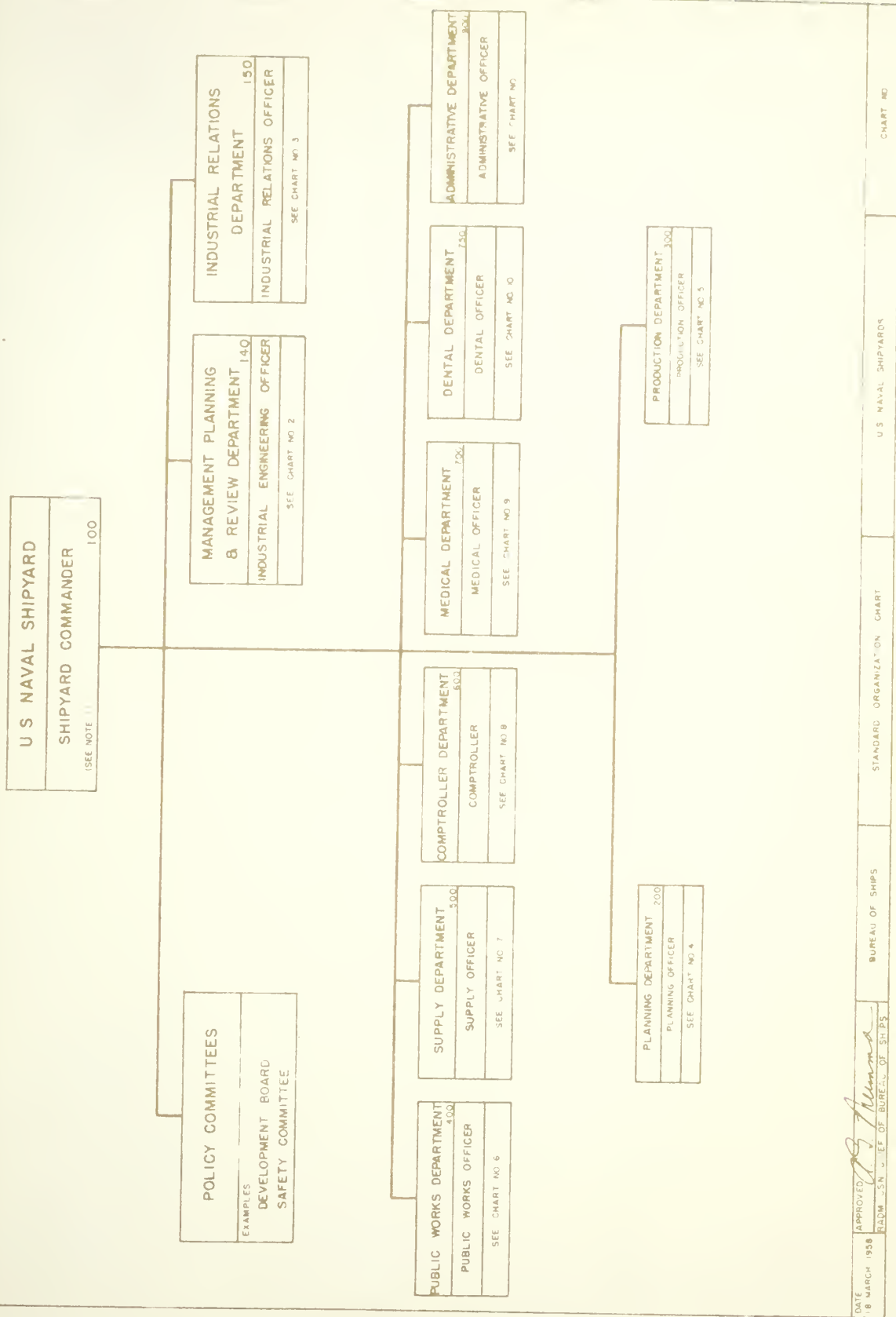
The present shipyard organization is made up of ten departments and some forty-five divisions. This standard organization was evolved over a period of years. The proposed organization now reduces the number of departments to four and the number of divisions to fourteen. Thus, the framework of the organization has been simplified and reduced considerably in scope. However, simplification will not of itself destroy the potential worth of the shipyard. Rather, through a streamlined organization the benefits of concentrated action can be gained. Clearness of purpose is evident. The mission and objectives of the shipyard form the basis for a completely industrial activity.

⁵Terry, p. 253.

APPENDIX A
STANDARD ORGANIZATION CHARTS FOR U.S. NAVAL SHIPYARDS

NOTES

INFORMATION, ADMINISTRATIVE AND LEGAL FUNCTIONS WILL BE PERFORMED IN THE SHIPYARD COMMANDER'S OFFICE



NOTES
 1 DESIGNATED AS MOBILIZATION
 PLANNING OFFICER, AND SPACE
 CONTROL OFFICER
 2 OPTIONAL MILITARY BILLET
 3 OPTIONAL DIVISION

MANAGEMENT PLANNING
 AND
 REVIEW DEPARTMENT
 140
 INDUSTRIAL ENGINEERING OFFICER
 (SEE NOTE 1)

ASSISTANT TO THE
 INDUSTRIAL ENGINEERING
 OFFICER
 140A
 (SEE NOTE 2)

MANAGEMENT ENGINEERING
 DIVISION
 141

INDUSTRIAL ENGINEERING
 DIVISION
 142
 (SEE NOTE 3)

MOBILIZATION PLANNING
 DIVISION
 143

DATE
 18 MARCH 1968

APPROVED
 [Signature]
 NROU USN CHIEF OF BUREAU OF SHIPS

BUREAU OF SHIPS

STANDARD ORGANIZATION CHART
 U.S. NAVAL SHIPYARDS

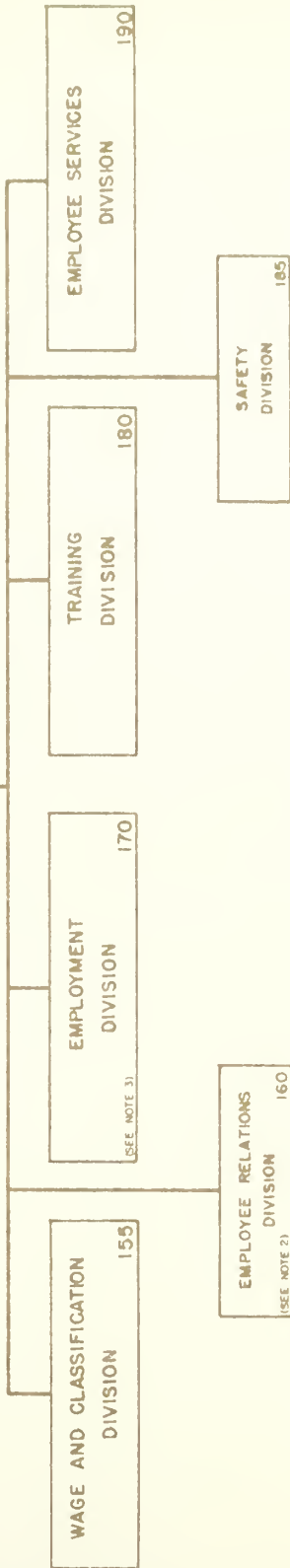
MANAGEMENT PLANNING
 AND
 REVIEW DEPARTMENT

CHART NO 2

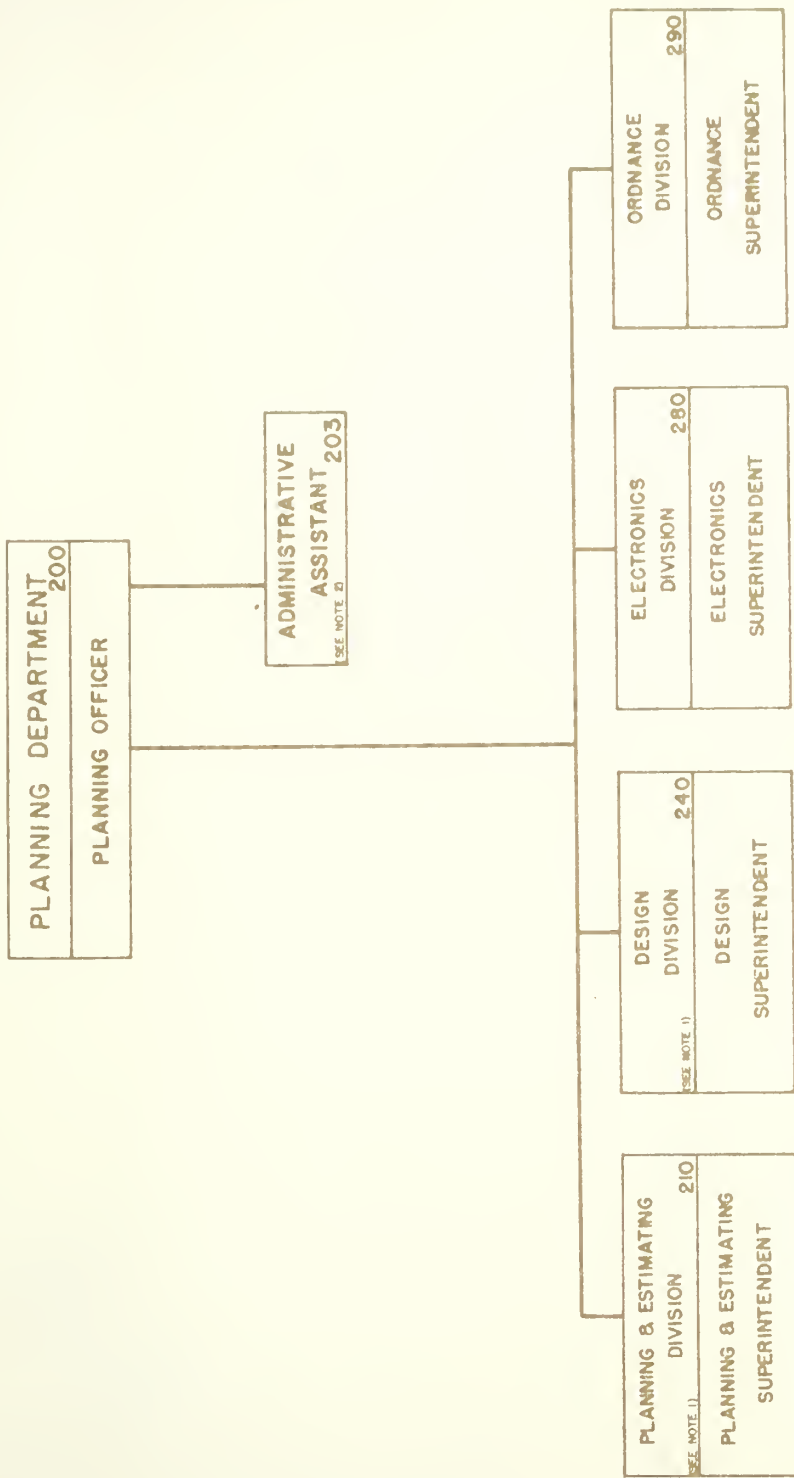
NOTES
1. SHALL BE THE SENIOR MEMBER OF THE BOARD OF U.S. CIVIL SERVICE EXAMINERS.
2. WHEN SPECIFICALLY AUTHORIZED BY THE BUREAU OF SHIPS, THE FUNCTIONS OF THE EMPLOYEE SERVICES DIVISION MAY BE PERFORMED BY PERSONNEL OF THE EMPLOYEE RELATIONS DIVISION, CODE 160.
3. SHALL SERVE AS EXECUTIVE SECRETARY OF THE BOARD OF U.S. CIVIL SERVICE EXAMINERS WHEN SO DESIGNATED.

INDUSTRIAL RELATIONS DEPARTMENT 150
INDUSTRIAL RELATIONS OFFICER
(SEE NOTE 1)

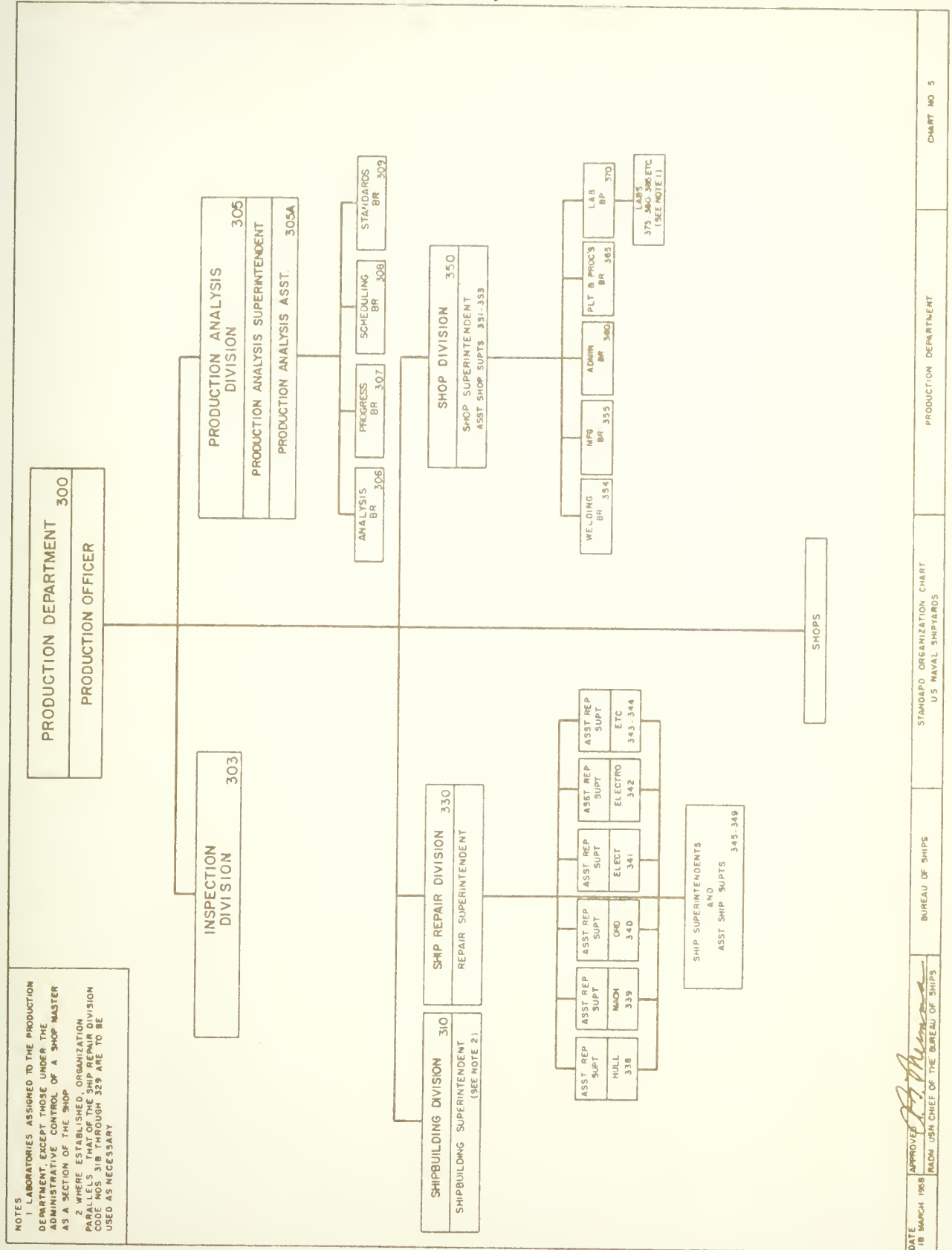
DEPUTY INDUSTRIAL RELATIONS OFFICER 154

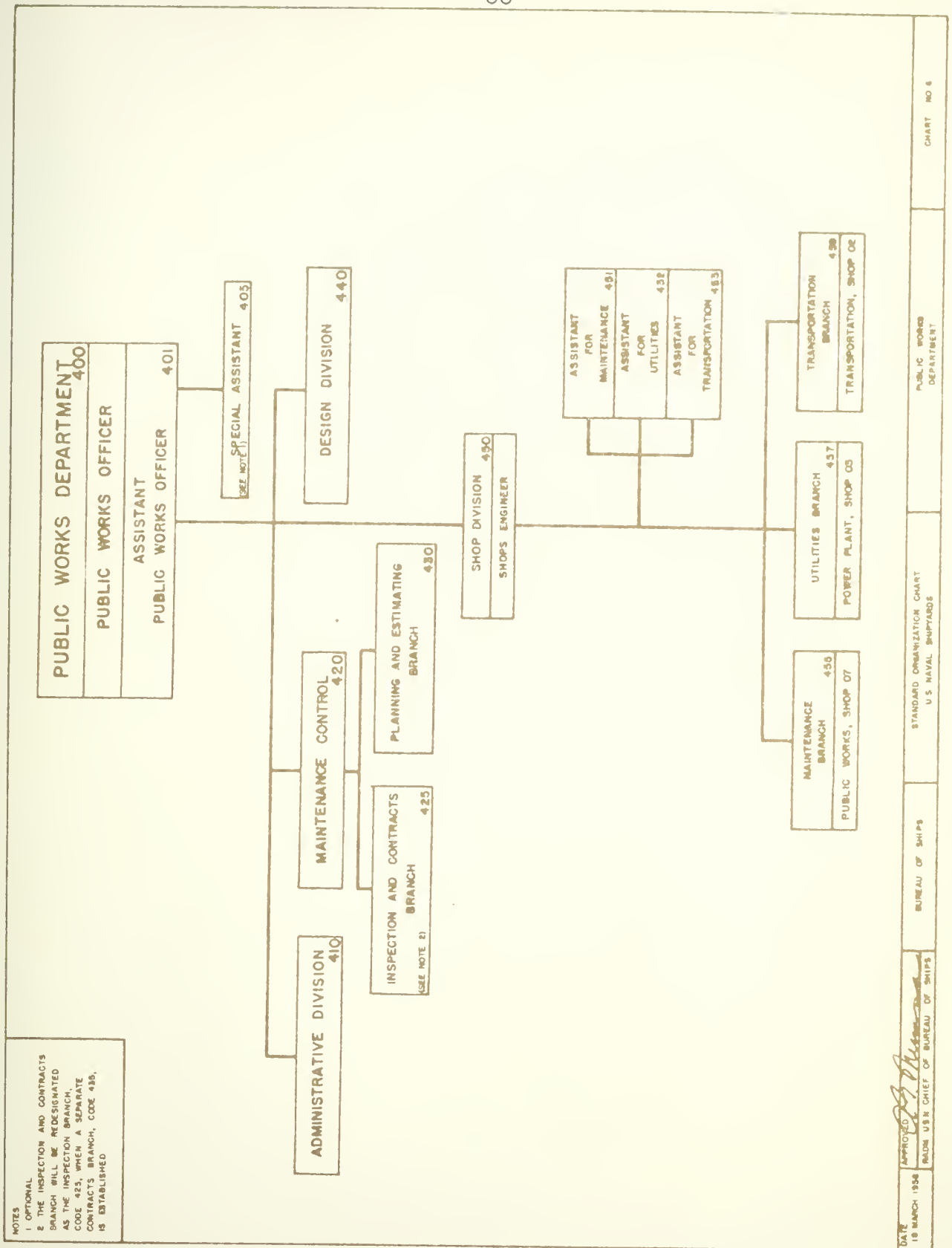


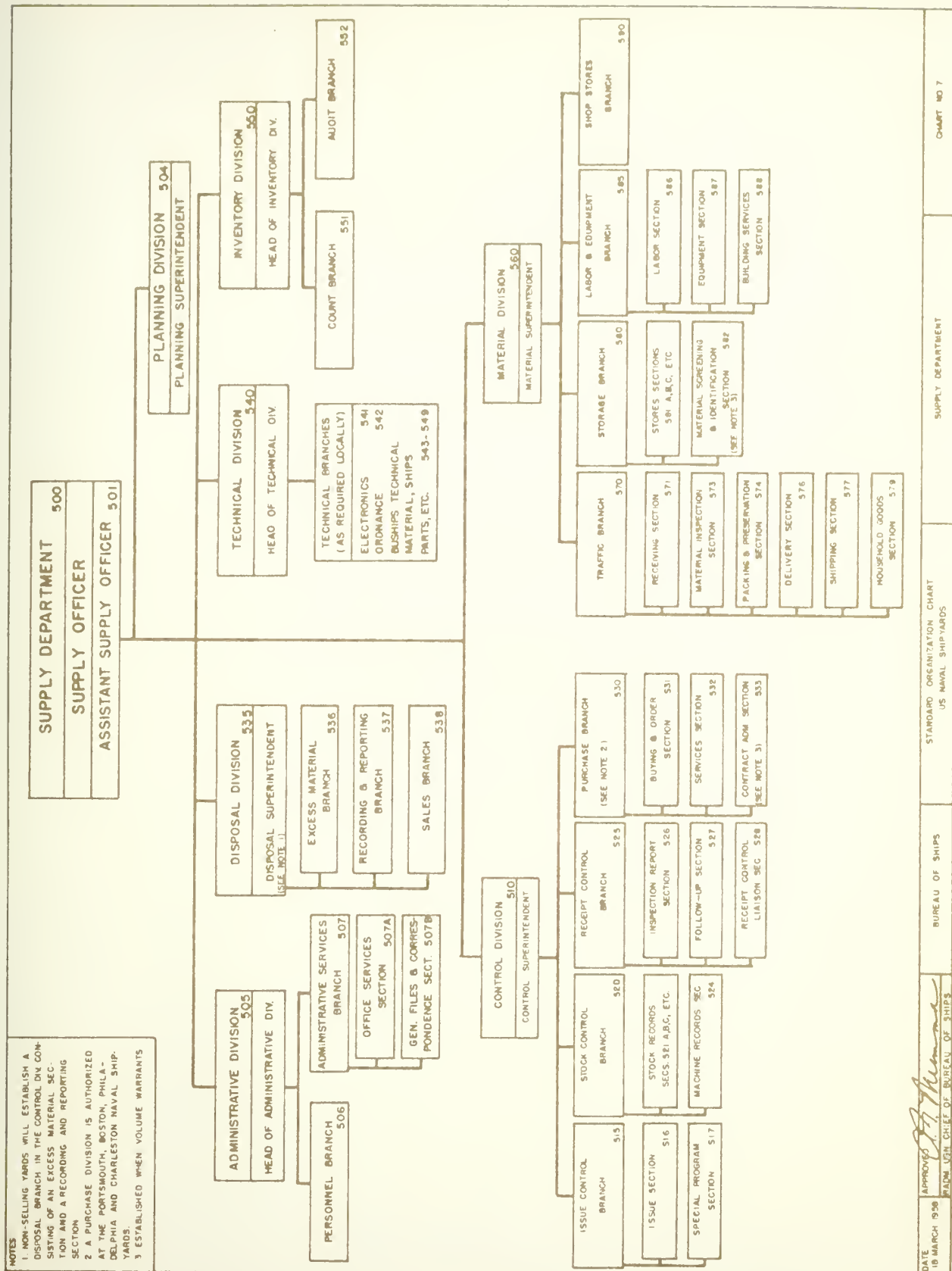
NOTE:
1. DETAILED ORGANIZATION
IS SHOWN ON CHARTS
4a AND 4b
2. OPTIONAL POSITION

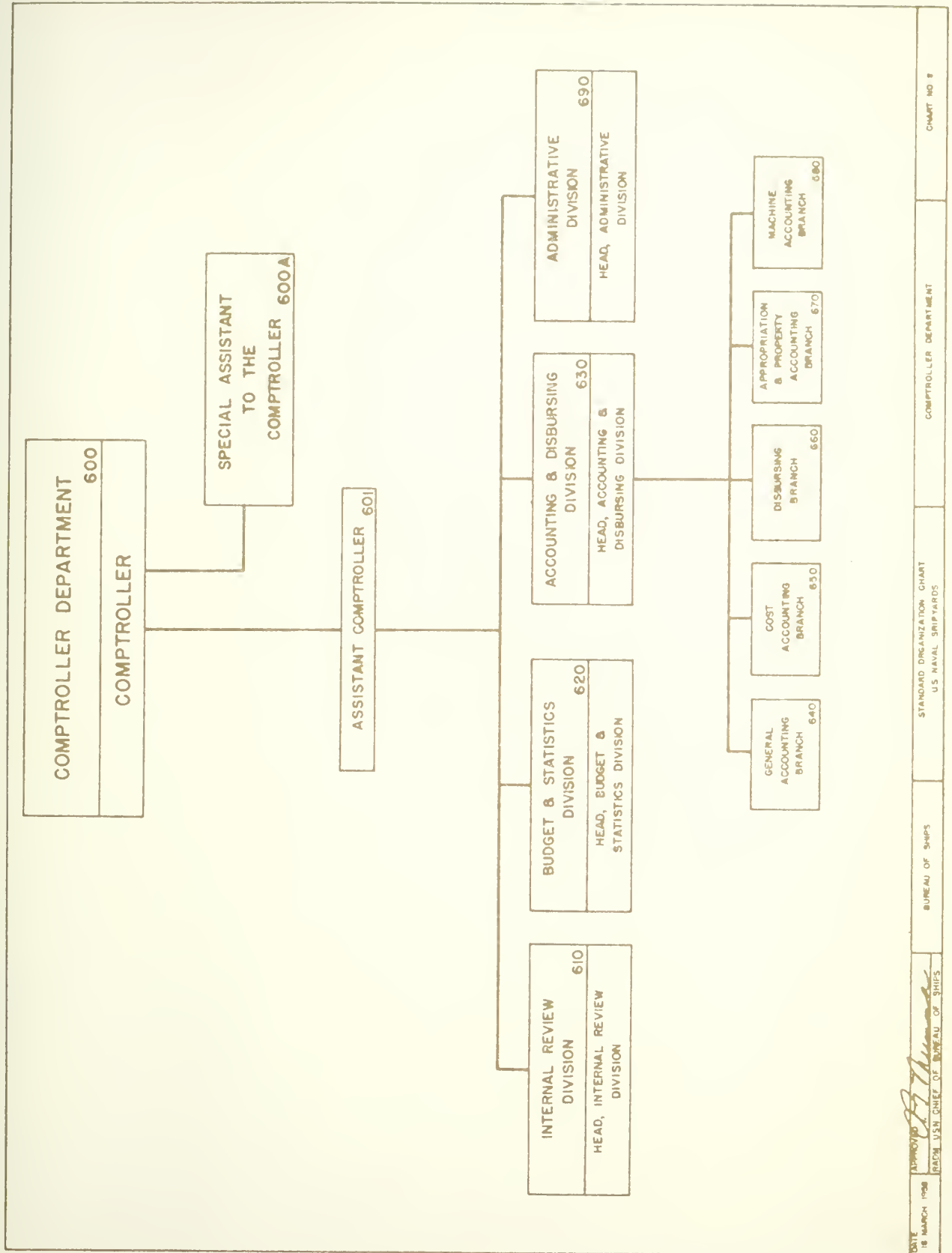


DATE 18 MARCH 1998	APPROVED <i>[Signature]</i> RADM, USN CHIEF OF BUREAU OF SHIPS	BUREAU OF SHIPS	STANDARD ORGANIZATION CHART U.S. NAVAL SHIPYARDS	PLANNING DEPARTMENT	CHART NO. 4
-----------------------	--	-----------------	---	---------------------	-------------

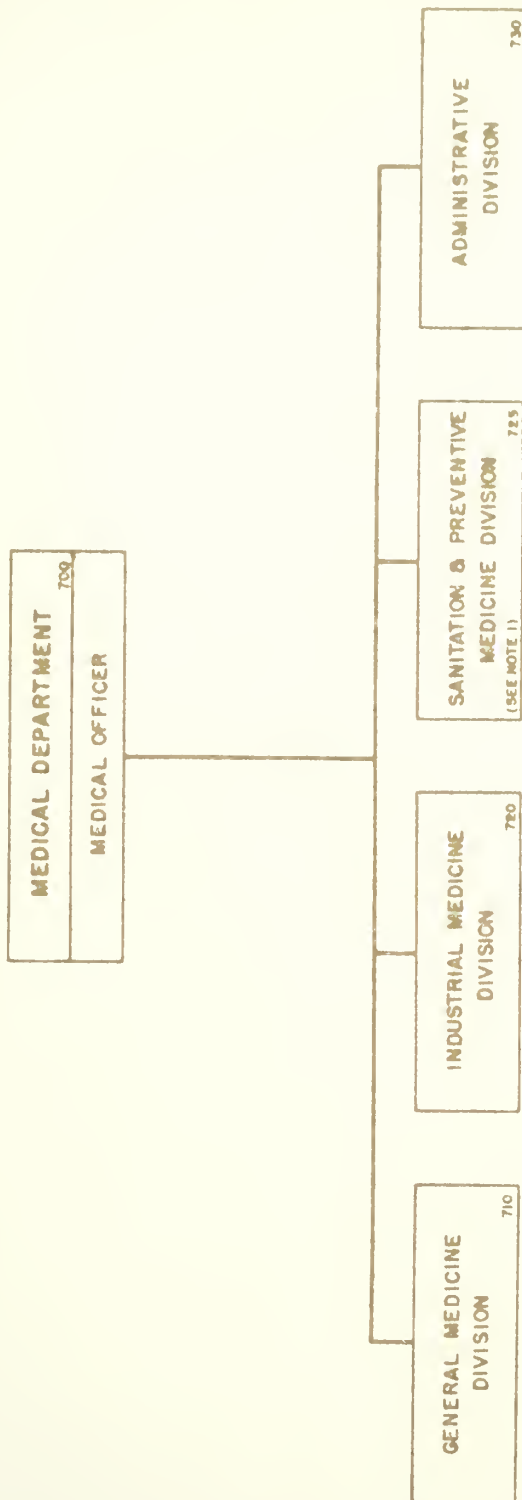








NOTES:
 1. WHEN THE BULLET OF DIVISION HEAD IS NOT STAPLED, THE FUNCTIONS AND PERSONNEL OF THE SANITATION AND PREVENTIVE MEDICINE DIVISION WILL BE THE RESPONSIBILITY OF THE INDUSTRIAL MEDICINE DIVISION



DATE
18 MARCH 1948

APPROVED: *P. H. Thompson*
 RADM, U.S.N., CHIEF OF BUREAU OF SHIPS

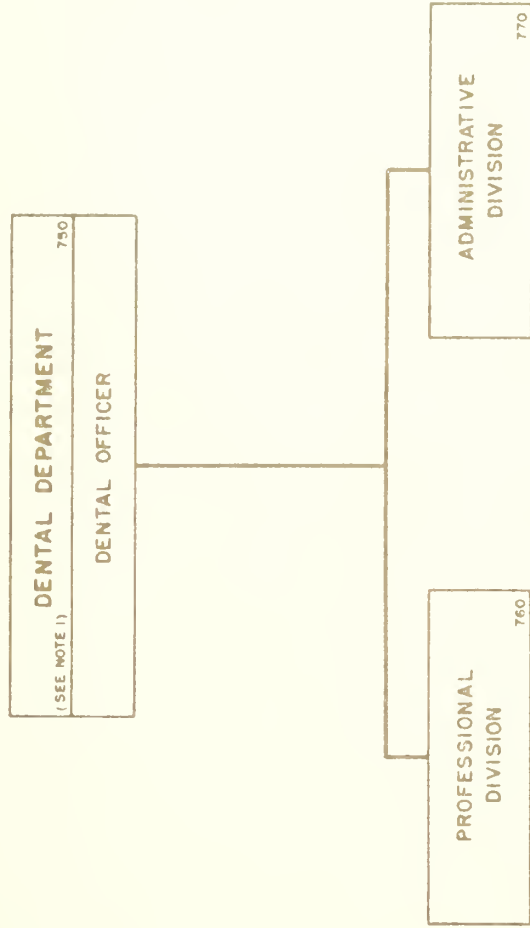
BUREAU OF SHIPS

STANDARD ORGANIZATION CHART
 U.S. NAVAL SHIPYARDS

MEDICAL DEPARTMENT

CHART NO. 9

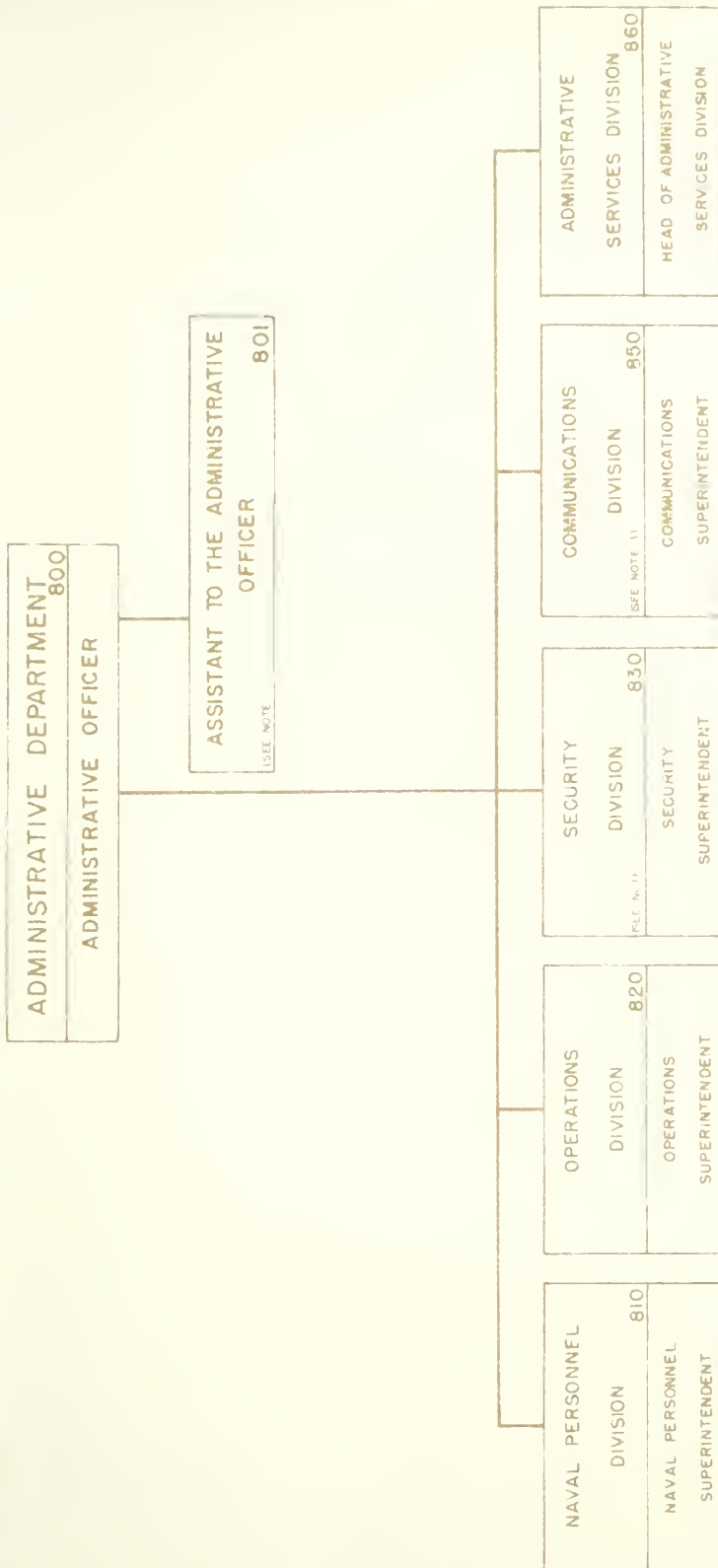
NOTE:
1. ESTABLISHED EXCEPT
WHERE SERVICES ARE
FURNISHED BY THE
NAVAL BASE.



DATE 18 MARCH 1950	APPROVED <i>[Signature]</i> RADM, USN, CHIEF OF BUREAU OF SHIPS	BUREAU OF SHIPS	STANDARD ORGANIZATION CHART U.S. NAVAL SHIPYARDS	DENTAL DEPARTMENT	CHART NO. 10
-----------------------	---	-----------------	---	-------------------	--------------

NOTES

1. OPTIONAL (BILLET OR POSITION)
2. AT NORFOLK THE COMMANDING OFFICER OF THE MARINE BARRACKS IS RESPONSIBLE TO THE SHIPYARD COMMANDER FOR PERIPHERAL SECURITY AND INTERNAL POLICE SECURITY
3. OPTIONAL IF NAVAL COMMUNICATIONS FUNCTIONS ARE PERFORMED BY THE NAVAL BASE



DATE

18 MARCH 1958

APPROVED



BRAD J. SMITH, CHIEF OF BUREAU OF SHIPS

BUREAU OF SHIPS

STANDARD ORGANIZATION CHART
3 NAVAL SHIPYARDS

ADMINISTRATIVE DEPARTMENT

CHART NO.

BIBLIOGRAPHY

Books

- Dale, Ernest. Planning and Developing the Company Organization Structure. New York: American Management Association Inc., 1952.
- Drucker, Peter F. The Practice of Management. New York: Harper & Brothers Publishers, 1954.
- Hodges, Henry G. Management. Boston: Houghton Mifflin Co., 1956.
- Lepawsky, Albert. Administration: The Art and Science of Organization and Management. New York: Alfred A. Knopf, 1949.
- Newman, Willian H. Administrative Action: The Techniques of Organization and Management. New York: Prentice-Hall, Inc., 1951.
- Owens, Richard N. Management of Industrial Enterprises. Homewood, Ill.: Richard D. Irwin, Inc., 1957.
- _____. Introduction to Business Policy. Homewood, Ill.: Richard D. Irwin, Inc., 1954.
- Peterson, Elmore and Plowman, E. Grosvenor. Business Organization and Management. Homewood, Ill.: Richard D. Irwin, Inc., 1958.
- Shull, Fremont A., Jr. (ed.). Selected Readings in Management. Homewood, Ill.: Richard D. Irwin, Inc. 1958.
- Terry, George R. Principles of Management. Homewood, Ill.: Richard D. Irwin, Inc., 1956.

Articles and Periodicals

- Wright, L.A. "The Bureau of Ships: A Study in Organization" Journal of the American Society of Naval Engineers, Inc. LXXI (February 1959)

Public Documents

U.S. Bureau of Naval Personnel. Organization for National Security, NAVPERS 10795, April 1955.

_____. Organization Planning for Naval Units, NAVPERS 18371, August 1955.

U.S. Department of the Navy, Office of the Management Engineer. The United States Navy: A Description of its Functional Organization, NAVEXOS P-435 (REV 10-52), 1952.

U.S. Department of the Navy. "Reorganization of Navy Yards and Establishment of Naval Bases," General Order No 223, 14 September 1945.

_____. "Relationships of Shore Activities of the Naval Establishment and Functions and Duties of Certain Shore Commands," General Order No 245, 27 November 1946.

U.S. House of Representatives. "A Brief History of the Organization of the Navy Department" (Captain A.W. Johnson) Sundry Hearings No 284 76th Congress, 2d & 3d Sess., 1940.

Reports

Cresap, McCormich, and Paget, Management Engineers. Performance Control Techniques: U.S. Naval Shipyards. A Report prepared for the Bureau of Ships, Department of the Navy. New York, 1950.

Letters

Secretary of the Navy Letter "Reorganization of Navy Yards and Establishment of Naval Bases," Washington, D.C., 14 September 1945.

Secretary of the Navy Letter to the Chief of Naval Operations. "Composition of U.S. Naval Bases," Washington, D.C., 14 September 1945.

AT 2660
DE 160
DE 1660
MY 261
JE 261
NO 1861

BINDERY
11857
11903
11903
11909
12206
12180

45671

HF5550 George Washington Univer-
.G3 sity, Washington,
1959 D. C.
v.1

Navy graduate comptrol-
lership program term pa-
pers, 1959.

DE 160
DE 1660
MY 261
JE 261
NO 1861
MR 762
DE 363
26 JUL 79

BINDERY
11857
11903
11903
11909
12206
12180
14234
25782

HF

45671

HF5550 George Washington Univer-
.G3 sity, Washington,
1959 D. C.

v.1 Navy graduate comptrol-
lership program term pa-
pers, 1959.

genHF 5550 G3y1959 v.1

Navy graduate comptrollership program te



3 2768 001 98685 4

DUDLEY KNOX LIBRARY